

ATTACHMENT 1
to FCC Public Notice DA 10-372

**Recommendations approved at
2 March 2010 Meeting of
the Advisory Committee for
the 2012 World Radiocommunication Conference**

Maritime Aeronautical and Radar Services

WAC Informal Working Group (IWG)-1

Modifications to NTIA's Proposal on
Agenda Item 1.12

Preparation for ITU Radiocommunication Conferences

UNITED STATES OF AMERICA

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 1.12: *to protect the primary services in the band 37-38 GHz from interference resulting from aeronautical mobile service operations, taking into account the results of ITU-R studies, in accordance with Resolution 754 (WRC-07)*

Background Information: ~~Administrations~~Countries are implementing space research service (SRS) earth station receivers in the ~~band~~ 37-38 GHz ~~band~~ to support manned ~~missions for both~~ near Earth and deep space ~~missions~~distances. Use of the wider bandwidth available in the 37-38 GHz band is necessary to support the increasing data requirements of these planned manned missions.

The ITU studied sharing between systems in the space research service (SRS), fixed service (FS), and fixed-satellite service (FSS) and potential systems in the aeronautical mobile services (AMS) in the 37-38 GHz band. The sharing studies indicate that high power emissions from typical aeronautical mobile transmitters would pose a high probability for causing harmful interference to receiving earth stations of the space research service and fixed-satellite service, but that lower powered aircraft stations could be compatible, if they meet a specified pfd mask. These studies also found that transmissions from the high-density fixed service (HDFS) systems could interfere with the airborne receivers of the AMS.

The aviation industry anticipates increasing demand for applications to be installed onboard aircraft for intra-aircraft communications, called Wireless Avionics Intra-Communications (WAIC). WAIC systems will be low power applications intended to support data, voice, and video communications between systems on an aircraft, including communications systems used by the crew. Wireless sensors located at various points throughout the aircraft will be used to wirelessly monitor the health of the aircraft structure and many ~~all~~ of its critical systems, and communicate this information within the aircraft. WAIC transmissions will not provide air-to-ground, air-to-satellite, or air-to-air communication. They will not include communications with consumer devices, such as Radio Local Area Network (RLAN) devices that are brought on board the aircraft by passengers. Therefore, since these systems are for aviation personnel use and not the general flying public, such systems may be able to meet the pfd limits needed to protect other allocated services.

Proposal:

ARTICLE 5

Frequency allocations

Section IV – Table of Frequency Allocations (See No. 2.1)

MOD USA/AI1.12/1

37-38 GHz

Allocation to services		
Region 1	Region 2	Region 3
37-37.5	FIXED MOBILE <u>ADD 5.AMS</u> SPACE RESEARCH (space-to-Earth) 5.547 <u>ADD 5.AMS</u>	
37.5-38	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE <u>ADD 5.AMS</u> SPACE RESEARCH (space-to-Earth) Earth exploration-satellite (space-to-Earth) 5.547 <u>ADD 5.AMS</u>	

ADD USA/AI1.12/2

5.AMS In the band 37-38 GHz, the power flux-density (pfd) produced at the surface of the Earth radiated by any station in the aeronautical mobile service ~~device or transmitter on an aircraft station~~ shall not exceed, ~~at the surface of the Earth using free space loss,~~ -227 dB (W/m²) in any 1 Hz bandwidth.

Reason: In accordance with the agenda item, earth stations of the space research service, the fixed satellite service, and stations of the fixed service will be protected in the band 37-38 GHz by the application of a power flux-density (PFD) limit at the surface of the Earth on the emissions radiated by any device on an aircraft in flight or on the ground.

SUP USA/AI1.12/3

RESOLUTION 754 (WRC-07)

**Consideration of modification of the aeronautical component of the mobile
service allocation in the 37-38 GHz band for protection of other primary
services in the band**

Reasons: Consequential to completion of Agenda item 1.12 at WRC-12.

Space Services

DOCUMENT WAC/061(02.03.10)

UNITED STATES OF AMERICA DRAFT PROPOSAL FOR WRC-12

AGENDA ITEM 1.11: *to consider a primary allocation to the space research service (Earth-to-space) within the band 22.55-23.15 GHz, taking into account the results of ITU-R studies, in accordance with Resolution 753 (WRC-07)*

BACKGROUND: To support the SRS missions in near Earth orbit, including missions in transit to the moon and at or near the moon, downlink (space-to-Earth) transmissions will operate in the 25.5-27.0 GHz SRS allocation. This 1.5 GHz wide downlink band will be used for both scientific data retrieval and voice/video communication with the Earth. However, there is a need for a companion uplink (Earth-to-space) band to provide the mission data, command and control links for these missions. A number of concurrently operating exploration-related systems are envisioned. Allocating sufficient primary space research service frequency spectrum in the 22.55-23.15 GHz band will provide the space exploration initiatives adequate uplink (Earth-to-space) bandwidth capacity in a band that is paired with the inter-satellite service and thus is a reasonable companion to the primary space research service 25.5-27.0 GHz space-to-Earth band.

Resolution 753 (WRC-07) calls for sharing studies between SRS (Earth-to-space) and the fixed, inter-satellite and mobile services in the band 22.55-23.15 GHz to determine appropriate criteria which will provide for sharing between a new SRS (Earth-to-space) allocation and the existing services in the 22.55-23.15 GHz band. It recognizes the need to protect all of the services in the band 22.55-23.55 GHz. Sharing studies are ongoing in ITU-R Working Party 7B and Working Party 4A.

In ITU-R WP 7B, a Draft New Recommendation (“DNR”) is under development which provides characteristics of three types of SRS stations planned for deployment. SRS proponents expect that no more than eight such stations will be deployed throughout the world. The DNR mentioned above reveals that these stations will require no more than 24 MHz of bandwidth each (some less), for a total spectrum requirement of about 192 MHz¹. (see PRELIMINARY DRAFT NEW RECOMMENDATION ITU-R SA.[SRS 23 GHZ CHAR], Annex 9 to Document 7B/181, 29 September 2009).

No. 5.149 identifies two Radio Astronomy frequencies at 22.81-22.86GHz and 23.07-23.12GHz which need to be protected. As the proposed use is Earth-to-space this can easily be accomplished by proper separation distances. As a result, no spectrum separation is necessary for these frequencies. However, as noted in the Recognizings 1) through 4) of Resolution 753(WRC-07) the protection requirements of all potentially affected services need to be met. These can be met if the new SRS allocation is limited to 300 MHz in the lowest portion of the 22.55-23.15 GHz band (i.e., 22.55 - 22.85 GHz). Limiting the SRS allocation to the 22.55 – 22.85 GHz band provides frequency separation to assist in SRS compatibility with other services potentially impacted in the allocation. Further, it is consistent with the government’s

¹ This total is straight multiplication of the maximum bandwidth per system and the number of systems. It does not take into account possibilities for frequency reuse which may lower the total spectrum requirement.

long held policy on efficient spectrum management.
[\[http://www.ntia.doc.gov/reports/2008/FederalStrategicSpectrumPlan2008.pdf\]](http://www.ntia.doc.gov/reports/2008/FederalStrategicSpectrumPlan2008.pdf)

Proposal

Article 5

Frequency Allocations

Section IV – Table of Frequency Allocations (See No. 2.1)

MOD USA/1.11/1

22-24.75 GHz

Allocation to services		
Region 1	Region 2	Region 3
22.55-22.85 22.55-23.55	FIXED INTER-SATELLITE 5.338A MOBILE <u>SPACE RESEARCH SERVICE</u> 5.149	

MOD USA/1.11/2

22.85-22.55 22.55-23.55	FIXED INTER-SATELLITE 5.338A MOBILE 5.149

Reason: This allocation proposal fulfills the requirements of the agenda item and ensures protection of all services in the allocation 22.55-23.15 GHz.

DOCUMENT WAC/062(02.03.10)

United States of America DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 1.18: *to consider extending the existing primary and secondary radiodetermination-satellite service (space-to-Earth) allocations in the band 2483.5-2500 MHz in order to make a global primary allocation, and to determine the necessary regulatory provisions based upon the results of ITU-R studies, in accordance with Resolution 613 (WRC-07);*

Background information

The 2 483.5-2 500 MHz band is allocated globally on a primary basis, to fixed, mobile and mobile-satellite services. In addition, in Regions 2 and 3 there are primary allocations to the radiolocation service. In Region 1, the radiolocation service is allocated on a secondary basis. The RDSS is allocated on a primary basis in Region 2 and on a secondary basis in Region 3, in the space-to-Earth direction. No. 5.400 allocates this band for RDSS on a Primary basis in certain countries in Regions 1 and 3 subject to agreement obtained under No. 9.21 from countries not listed in No. 5.400. No. 5.398 states that the provisions of No. 4.10 do not apply to RDSS in this band. No. 5.402 calls for coordination of mobile-satellite service and radiodetermination-satellite service networks under No. 9.11A.

The 2 483.5 – 2 500 MHz band is used by the mobile-satellite service, in the space-to-Earth direction, to provide communication service to remote and underserved locations. Service to these remote and underserved areas is critical for the continued development of the areas and represents the only means of communication available in these areas. The 1992 World Administrative Radio Conference made the MSS allocation based on a 1998 implementation date and the MSS has successfully operated in this band since 1998.

In other parts of the world, fixed and mobile services are active in the 2 483.5 – 2 500 MHz band. In particular, advanced terrestrial wireless services operate in the 2 496-2 690 MHz band in the United States.

Currently, the RDSS is active in the 2483.5 – 2500 MHz band only from geostationary space stations serving parts of Region 3. It is uncertain at this time whether RDSS operation has had any effect on the other primary allocated services.

Studies conducted within the ITU-R have indicated that the radiodetermination-satellite service (space-to-Earth) could cause unacceptable interference to the mobile-satellite service (space-to-Earth) based on current operating conditions. Relaxation of the coordination trigger power flux density level given in Table 5-2 of Annex 1 of Appendix 5, which some systems regard as a power flux density limit, would allow this potential interference to be overcome.

The power flux density coordination trigger level was developed in preparation for WRC-95. The usage of the 2483.5-2500 MHz band has changed since the ITU-R studies preparing for WRC-95 were conducted. In some countries the use of this band for the fixed service has been discontinued while in other countries the characteristics of the fixed service systems have been drastically changed.

Proposal:

ARTICLE 5

Frequency allocations

Section IV – Table of Frequency Allocations
(See No. 2.1)

NOC

USA/1.18/1

2 170-2 520 MHz

Allocation to services		
Region 1	Region 2	Region 3
2 483.5-2 500 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A Radiolocation 5.150 5.371 5.397 5.398 5.399 5.400 5.402	2 483.5-2 500 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A RADIOLOCATION RADIODETERMINATION- SATELLITE (space-to-Earth) 5.398 5.150 5.402	2 483.5-2 500 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A RADIOLOCATION Radiodetermination-satellite (space-to-Earth) 5.398 5.150 5.400 5.402

Reason: No proposals are made with respect to the Table of Frequency Allocations in the band 2483.5-2500 MHz but it is presumed that WRC-12 under Agenda Item 1.18 will allocate this band to the Radiodetermination-satellite (space-to-Earth) on the primary bases in Regions 1 and 3.

NOC

USA/1.18/2

5.398 In respect of the radiodetermination-satellite service in the band 2 483.5-2 500 MHz, the provisions of No. **4.10** do not apply.

Reason: The operation under the radiodetermination-satellite service in this band is not intended to be used for safety-of-life applications.

NOC

USA/1.18/3

5.402 The use of the band 2 483.5-2 500 MHz by the mobile-satellite and the radiodetermination-satellite services is subject to the coordination under No. **9.11A**. Administrations are urged to take all practicable steps to prevent harmful interference to the radio astronomy service from emissions in the 2 483.5-2 500 MHz band, especially those caused by second-harmonic radiation that would fall into the 4 990-5 000 MHz band allocated to the radio astronomy service worldwide.

Reason: The necessity for coordination between networks operating in the space services and between space and terrestrial networks will continue in the future.

APPENDIX 5 (REV.WRC-07)

Identification of administrations with which coordination is to be effected or agreement sought under the provisions of Article 9

ANNEX 1

1 Coordination thresholds for sharing between MSS (space-to-Earth) and terrestrial services in the same frequency bands and between non-GSO MSS feeder links (space-to-Earth) and terrestrial services in the same frequency bands

MOD USA/1.18/4

TABLE 5-2 (*continued*) (WRC-07)

Frequency band (MHz)	Terrestrial service to be protected	Coordination threshold values				
		GSO space stations		Non-GSO space stations		
		pfd (per space station) calculation factors (NOTE 2)		pfd (per space station) calculation factors (NOTE 2)		% FDP (in 1 MHz) (NOTE 1)
		<i>P</i>	<i>r</i> dB/degrees	<i>P</i>	<i>r</i> dB/degrees	
2 483.5-2 500	All cases	−146 dB(W/m ²) in 4 kHz and −128 dB(W/m ²) in 1 MHz	0.5	−140.4 dB(W/m ²) in 4 kHz and −122.6 dB(W/m ²) in 1 MHz (NOTE 7)	0.65	

NOTE 1 – The calculation of FDP is contained in § 1.2.2.1, using the reference FS parameters contained in § 1.2.2.2.1 and 1.2.2.2.3. The use of FDP threshold is limited to the case of digital FS systems.

NOTE 2 – The following formula should be used for deriving the coordination threshold in terms of pfd:

$$\begin{aligned}
 P & \quad \text{for } 0^\circ \leq \delta \leq 5^\circ \\
 P + r(\delta - 5) & \quad \text{for } 5^\circ < \delta \leq 25^\circ \\
 P + 20r & \quad \text{for } 25^\circ < \delta \leq 90^\circ
 \end{aligned}$$

where δ is the angle of arrival (degrees).

The threshold values are obtained under assumed free-space propagation conditions.

NOTE 7 – The pfd values specified for the band 2 483.5-2 500 MHz provide full protection for analogue radio-relay systems using the sharing criteria established by Recommendation ITU-R SF.357, for operation with multiple non-GSO MSS systems employing code division multiple access techniques. The pfd values specified will not provide full protection for existing digital fixed systems in all cases. However, these pfd values are considered to provide adequate protection for digital fixed systems designed to operate in this band, where high-power industrial, scientific and medical equipment and possible low-power applications are expected to produce a relatively high interference environment.

Reason: Studies conducted within the ITU-R have indicated that the radiodetermination-satellite service (space-to-Earth) could cause unacceptable interference to the mobile-satellite service (space-to-Earth) based on current operating conditions. Relaxation of the coordination trigger power flux density level given in Table 5-2 of Annex 1 of Appendix 5, which some systems regard as a power flux density limit, would allow this potential interference to be overcome.

Regulatory Issues

DOCUMENT WAC/064(02.03.10)

United States of America

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

WRC-12 Agenda Item 7: *to consider possible changes in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference: “Advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks”, in accordance with Resolution 86 (Rev.WRC-07)*

Background information: Resolution 49 was initially adopted at WRC-97 as a consequence of a recommendation from the report of the Director of the Radiocommunication Bureau as a means of addressing the problem of reservation of orbit and spectrum capacity without actual use. At the time that this Resolution was adopted there was a very large number of so-called “paper” satellite filings that were clogging the ITU satellite filing process and thereby potentially preventing other systems from proceeding. Resolution 49 effectively required administrations to submit basic due diligence information that would demonstrate the development of their satellite filings, during the lifetime of the filing, in order to maintain the filing in the ITU satellite database or maintain their listing in the MIFR.

Since its adoption, Resolution 49 has in fact contributed to reducing the satellite processing backlog at the ITU. A significant number of satellites filings have been removed from the ITU queue as a consequence of failure to provide the basic information called for in Resolution 49. This Resolution has also shortened the lifetime of other paper filings by not allowing their time extension for failure to provide the required due diligence information. These are very positive results.

Changes were made to Resolution 49 at WRC-03 and WRC-07 as a consequence of proposals to those WRCs, and as a consequence of other changes to the Radio Regulations. Additional changes are now necessary in recognition of the fact that, with the passage of time, certain of the *resolves* in the Resolution refer to networks that either have satisfied the requirements of these *resolves* or no longer exist. It should be noted that deletion of these *resolves* will simplify the reading of the Resolution considerably.

In addition, to the issue discussed above, it is widely recognized that access to the geostationary orbit (GSO) has become increasingly difficult over the years, in large part due to difficulties in fully coordinating new orbital positions and applying the relevant provisions of the Radio Regulations. As highlighted at the ITU Radiocommunication Bureau (BR) workshop on efficient use of the spectrum/orbit resource and in ITU administrative circular CR/301, it has been noted that some unused frequency and GSO resources remain recorded in the Master International Frequency Register, which serves to worsen this problem. These issues are most acute in certain frequency bands where ITU filing and actual usage are most congested.

One aspect that could be improved in the most congested satellite bands is a change in the requirements for provision of Resolution 49 data. Resolution 49 (WRC-07) calls for data to be submitted as early as possible before the end of the regulatory lifetime of the filing, or as early as possible before satellite launch. This is a useful requirement for all satellite networks. In

addition, for those satellite bands where congestion is most severe, it would be useful to require administrations to update the Resolution 49 data after the assignments of a satellite network have been brought into use, in order to ensure that the most accurate data is on file at the ITU.

It is proposed to modify Resolution 49 in order to address this second issue in the most congested satellite bands. The proposed changes entail requiring, for certain satellite bands, submission of updated Resolution 49 data only after the BR has been informed that frequency assignments have been brought into use. In this way, the Resolution 49 data would become definitive as there will be certainty associated with the data called for the Resolution (i.e. launch date, launch provider, name of satellite, frequency bands on the satellite, etc.).

Proposal:

USA/xx/1

MOD

The uncertainty associated with frequency assignments and satellite networks actually brought into use could be addressed as follows:

²⁰ **11.44.1** In the case of space station frequency assignments that are brought into use prior to the completion of the coordination process, and for which the Resolution **49 (Rev.WRC-1203)*** data have been submitted to the Bureau, the assignment shall continue to be taken into consideration for a maximum period of seven years from the date of receipt of the relevant information under No. **9.1**. If the first notice for recording of the assignments in question under No. **11.15** has not been received by the Bureau by the end of this seven-year period, the assignments shall no longer be taken into account by the Bureau and administrations. The Bureau shall inform the notifying administration of its pending actions three months in advance.

In the case of satellite networks for which relevant advance publication information has been received prior to 22 November 1997, the corresponding period will be nine years from the date of publication of this information. (WRC-2000)

* ~~Note by the Secretariat: This Resolution was revised by WRC-07.~~

RESOLUTION 49 (REV.WRC-1207)**Administrative due diligence applicable to some satellite
radiocommunication services**

The World Radiocommunication Conference (Geneva, 201207),

considering

- a) that Resolution 18 of the Plenipotentiary Conference (Kyoto, 1994) instructed the Director of the Radiocommunication Bureau to initiate a review of some important issues concerning international satellite network coordination and to make a preliminary report to WRC-95 and a final report to WRC-97;
- b) that the Director of the Bureau provided a comprehensive report to WRC-97, including a number of recommendations for action as soon as possible and for identifying areas requiring further study;
- c) that one of the recommendations in the Director's report to WRC-97 was that administrative due diligence should be adopted as a means of addressing the problem of reservation of orbit and spectrum capacity without actual use;
- d) that experience ~~may need to be~~ gained in the application of the administrative due diligence procedures adopted by WRC-97 indicates certain changes should be made to those procedures for the most congested satellite bands, and that several years may be needed to see whether administrative due diligence measures produce satisfactory results;
- e) that new regulatory approaches may need to be carefully considered in order to avoid adverse effects on networks already going through the different phases of the procedures;
- f) that Article 44 of the Constitution sets out the basic principles for the use of the radio-frequency spectrum and the geostationary-satellite and other satellite orbits, taking into account the needs of developing countries,

considering further

- g) that WRC-97 decided to reduce the regulatory time-frame for bringing a satellite network into use;
- h) that WRC-2000 has considered the results of the implementation of the administrative due diligence procedures and prepared a report to the 2002 Plenipotentiary Conference in response to Resolution 85 (Minneapolis, 1998),

resolves

- 1 that the administrative due diligence procedure contained in Annex 1 to this Resolution shall be applied as from 22 November 1997 for a satellite network or satellite system of the fixed-satellite service, mobile-satellite service or broadcasting-satellite service for which the advance publication information under No. **9.2B**, or for which the request for modifications of the Region 2 Plan under Article 4, § 4.2.1 b) of Appendices **30** and **30A** that involve the addition of new frequencies or orbit positions, or for which the request for modifications of the Region 2 Plan under Article 4, § 4.2.1 a) of Appendices **30** and **30A** that extend the service area to another country or countries in addition to the existing service area, or for which the request for additional uses in Regions 1 and 3 under § 4.1 of Article 4 of Appendices **30** and **30A**, or for which the

submission of information under supplementary provisions applicable to additional uses in the planned bands as defined in Article 2 of Appendix **30B** (Section III of Article 6) has been received by the Bureau from 22 November 1997, or for which submission under Article 6 of Appendix **30B (Rev.WRC-07)** is received on or after 17 November 2007, with the exception of submissions of new Member States seeking the acquisition of their respective national allotments

¹ for inclusion in the Appendix **30B** Plan;

~~2 — that for a satellite network or satellite system within the scope of § 1 or 3 of Annex 1 to this Resolution not yet recorded in the Master International Frequency Register (MIFR) by 22 November 1997, for which the advance publication information under No. 1042 of the Radio Regulations (Edition of 1990, revised in 1994) or for the application of Section III of Article 6 of Appendix **30B** has been received by the Bureau before 22 November 1997, the responsible administration shall submit to the Bureau the complete due diligence information in accordance with Annex 2 to this Resolution not later than 21 November 2004, or before the expiry of the notified period for bringing the satellite network into use, plus any extension period which shall not exceed three years pursuant to the application of No. 1550 of the Radio Regulations (Edition of 1990, revised in 1994) or the dates specified in the relevant provisions Article 6 of Appendix **30B**, whichever date comes earlier. If the date of bringing into use, including extension specified above, is before 1 July 1998, the responsible administration shall submit to the Bureau the complete due diligence information in accordance with Annex 2 to this Resolution not later than 1 July 1998;~~

~~2bis — that for a satellite network or satellite system within the scope of § 2 of Annex 1 to this Resolution not recorded in the MIFR by 22 November 1997, for which the request for a modification to the Plans of Appendices **30** and **30A** has been received by the Bureau before 22 November 1997, the responsible administration shall submit to the Bureau the complete due diligence information in accordance with Annex 2 to this Resolution as early as possible before the end of the period established as a limit to bringing into use in accordance with the relevant provisions of Article 4 of Appendix **30** and the relevant provisions of Article 4 of Appendix **30A**;~~

¹

See § 2.3 of Appendix **30B (Rev.WRC-07)**.

~~3 — that for a satellite network or satellite system within the scope of § 1, 2 or 3 of Annex 1 to this Resolution recorded in the MIFR by 22 November 1997, the responsible administration shall submit to the Bureau the complete due diligence information in accordance with Annex 2 to this Resolution not later than 21 November 2000, or before the notified date of bringing the satellite network into use (including any extension period), whichever date comes later;~~

~~4 — that six months before the expiry date specified in *resolves 2* or *2bis* above, if the responsible administration has not submitted the due diligence information, the Bureau shall send a reminder to that administration;~~

~~5 — that if the due diligence information is found to be incomplete, the Bureau shall immediately request the administration to submit the missing information. In any case, the complete due diligence information shall be received by the Bureau before the expiry date specified in *resolves 2* or *2bis* above, as appropriate, and shall be published by the Bureau in the International Frequency Information Circular (BR-IFIC);~~

~~6 — that if the complete due diligence information is not received by the Bureau before the expiry date specified in *resolves 2* or *2bis* above, the request for coordination or request for a modification to the Plans of Appendices **30** and **30A** or for application of Section III of Article 6 of Appendix **30B** as covered by *resolves 1* above submitted to the Bureau shall be cancelled. Any modifications of the Plans (Appendices **30** and **30A**) shall lapse and any recording in the MIFR as well as recordings in the Appendix **30B** List shall be deleted by the Bureau after it has informed the concerned administration. The Bureau shall publish this information in the BR-IFIC;~~

further resolves

that the procedures in this Resolution are in addition to the provisions under Article **9** or **11** of the Radio Regulations or Appendices **30**, **30A** or **30B**, as applicable, and, in particular, do not affect the requirement to coordinate under those provisions (Appendices **30**, **30A**) in respect of extending the service area to another country or countries in addition to the existing service area,

instructs the Director of the Radiocommunication Bureau

~~to report to future competent world radiocommunication conferences on the results of the implementation of the administrative due diligence procedure.~~

ANNEX 1 TO RESOLUTION 49 (REV.WRC-0712)

1 Any satellite network or satellite system of the fixed-satellite service, mobile-satellite service or broadcasting-satellite service with frequency assignments that are subject to coordination under Nos. **9.7**, **9.11**, **9.12**, **9.12A** and **9.13** and Resolution **33 (Rev.WRC-03)** shall be subject to these procedures.

2 Any request for modifications of the Region 2 Plan under the relevant provisions of Article 4 of Appendices **30** and **30A** that involve the addition of new frequencies or orbit positions or for modifications of the Region 2 Plan under the relevant provisions of Article 4 of Appendices **30** and **30A** that extend the service area to another country or countries in addition to the existing service area or request for additional uses in Regions 1 and 3 under the relevant provisions of Article 4 of Appendices **30** and **30A** shall be subject to these procedures.

3 Any submission of information under Article 6 of Appendix **30B (Rev.WRC-07)**, with the exception of submissions of new Member States seeking the acquisition of their respective national allotments² for inclusion in the Appendix **30B** Plan, shall be subject to these procedures.

² See § 2.3 of Appendix **30B (Rev.WRC-07)**.

4 An administration requesting coordination for a satellite network under § 1 above shall send to the Bureau as early as possible before the end of the period established as a limit to bringing into use in No. **9.1**, the due diligence information relating to the identity of the satellite network and the spacecraft manufacturer specified in Annex 2 to this Resolution.

5 An administration requesting a modification of the Region 2 Plan or additional uses in Regions 1 and 3 under Appendices **30** and **30A** under § 2 above shall send to the Bureau as early as possible before the end of the period established as a limit to bringing into use in accordance with the relevant provisions of Article 4 of Appendix **30** and the relevant provisions of Article 4 of Appendix **30A**, the due diligence information relating to the identity of the satellite network and the spacecraft manufacturer specified in Annex 2 to this Resolution.

6 An administration applying Article 6 of Appendix **30B (Rev.WRC-07)** under § 3 above shall send to the Bureau as early as possible before the end of the period established as a limit to bringing into use in § 6.1 of that Article, the due diligence information relating to the identity of the satellite network and the spacecraft manufacturer specified in Annex 2 to this Resolution.

7 The information to be submitted in accordance with § 4, 5 or 6 above shall be signed by an authorized official of the notifying administration or of an administration that is acting on behalf of a group of named administrations.

8 On receipt of an indication that frequency assignments for a particular satellite network have been brought into use, the BR shall post such information to a web page.

89 On receipt of the due diligence information under § 4, 5 or 6 above, the Bureau shall promptly examine that information for completeness. If the information is found to be complete, the Bureau shall publish the complete information in a special section of the BR IFIC within 30 days.

910 If the information is found to be incomplete, the Bureau shall immediately request the administration to submit the missing information. In all cases, the complete due diligence information shall be received by the Bureau within the appropriate time period specified in § 4, 5 or 6 above, as the case may be, relating to the date of bringing the satellite network into use.

110 Six months before expiry of the period specified in § 4, 5 or 6 above and if the administration responsible for the satellite network has not submitted the due diligence information under § 4, 5 or 6 above, the Bureau shall send a reminder to the responsible administration.

124 If the complete due diligence information is not received by the Bureau within the time limits specified in this Resolution, the networks covered by § 1, 2 or 3 above shall no longer be taken into account and shall not be recorded in the MIFR. The provisional recording in the MIFR shall be deleted by the Bureau after it has informed the concerned administration. The Bureau shall publish this information in the BR IFIC.

With respect to the request for modification of the Region 2 Plan or for additional uses in Regions 1 and 3 under Appendices **30** and **30A** under § 2 above, the modification shall lapse if the due diligence information is not submitted in accordance with this Resolution.

With respect to the request for application of Article 6 of Appendix **30B (Rev.WRC-07)** under § 3 above, the network shall also be deleted from the Appendix **30B** List. When an allotment under Appendix **30B** is converted into an assignment, the assignment shall be reinstated in the Plan in accordance with § 6.33 c) of Article 6 of Appendix **30B (Rev.WRC-07)**.

132 An administration notifying a satellite network under § 1, 2 or 3 above for recording in the MIFR shall send to the Bureau, as early as possible before the date of bringing into use, the due diligence information relating to the identity of the satellite network and the launch services provider specified in Annex 2 to this Resolution.

143 When an administration has completely fulfilled the due diligence procedure but has not completed coordination, this does not preclude the application of No. **11.41** by that administration.

ANNEX 2 TO RESOLUTION 49 (REV.WRC-07)

A Identity of the satellite network

- a)* Identity of the satellite network
- b)* Name of the administration
- c)* Country symbol
- d)* Reference to the advance publication information or to the request for modification of the Region 2 Plan or for additional uses in Regions 1 and 3 under Appendices **30** and **30A**; or reference to the information processed under Article 6 of Appendix **30B (Rev.WRC-07)**
- e)* Reference to the request for coordination (not applicable for Appendices **30**, **30A** and **30B**)
- f)* Frequency band(s)
- g)* Name of the operator
- h)* Name of the satellite
- i)* Orbital characteristics.

B Spacecraft manufacturer*

- a)* Name of the spacecraft manufacturer
- b)* Date of execution of the contract
- c)* Contractual “delivery window”
- d)* Number of satellites procured.

C Launch services provider

- a)* Name of the launch vehicle provider
- b)* Date of execution of the contract
- c)* Launch or in-orbit delivery window
- d)* Name of the launch vehicle
- e)* Name and location of the launch facility.

* NOTE – In cases where a contract for satellite procurement covers more than one satellite, the relevant information shall be submitted for each satellite.

ANNEX 3 TO RESOLUTION 49 (REV.WRC-12)

1 In addition to the requirements of ANNEX 1 above, any satellite network or satellite system of the fixed-satellite service, with frequency assignments in the bands 3 400- 4 200 MHz (space-to-Earth), 5 725-5 850 MHz (Earth-to-space) in Region 1, 5 850-6 725 MHz (Earth-to-space), 7025-7 075 MHz (space-to-Earth) and (Earth-to-space), 10.95-11.2 GHz (space-to-Earth), 11.45-11.7 GHz (space-to-Earth), 11.7-12.2 GHz (space-to-Earth) in Region 2, 12.2-12.5 GHz (space-to-Earth) in Region 3, 12.5-12.75 GHz (space-to-Earth) in Regions 1 and 3, 12.7-12.75 GHz (Earth-to-space) in Region 2, and 13.75-14.5 GHz (Earth-to-space) that are subject to coordination under Nos. 9.7, 9.12, 9.12A and 9.13 and have submitted notification information or confirmation of bringing into use³ after XX.YY.2012 shall be subject to these additional procedures.

2 An administration indicating to the Bureau that frequency assignments for a satellite network under § 1 above have been brought into use shall send to the Bureau updated due diligence information specified in Annex 4 to this Resolution. The indication to the BR that frequency assignments have been brought into use shall be made no later than 30 days after the date on which the frequency assignments have actually been brought into use⁴. Additionally, the updated information called for in Annex 4 to this Resolution shall be submitted no earlier than the date on which the frequency assignments have actually been brought into use, and no later than 30 days after the date on which the frequency assignments have actually been brought into use.

3 The information to be submitted in accordance with § 2 above shall be signed by an authorized official of the notifying administration or of an administration that is acting on behalf of a group of named administrations.

4 On receipt of an indication that frequency assignments for a particular satellite network have been brought into use, the BR shall post such information to a web page.

5 On receipt of the updated information called for in Annex 4 to this Resolution under § 2 above, the Bureau shall promptly examine that information for completeness. If the information is found to be complete, the Bureau shall publish the complete updated information in a special section of the BR IFIC within 30 days.

6 If the information submitted under § 5 above is found to be incomplete, or if the updated information called for in § 2 above is not submitted within the 30-day period defined therein, the Bureau shall immediately request the administration to submit the missing information. In such cases, the administration shall provide the missing information within 1 month after receiving the request for the additional information from the Bureau.

7 If the complete updated due diligence information is not received by the Bureau within the time limits specified in § 6 above, the networks covered by § 1 above shall no longer be taken into account and shall not be recorded in the MIFR. Any provisional recording in the MIFR shall be deleted by the Bureau after it has informed the concerned administration. The Bureau shall publish this information in the BR IFIC.

³ In the case of a previously submitted notification in which the date of bringing into use is a future date, confirmation of the bringing into use is required.

⁴ For frequency assignments brought into use before XX.YY.2012 and for which Annex 3 applies, the 30-day period starts on the date of submission of notification or confirmation of bringing into use (see §1 above).

8 When an administration has completely fulfilled the due diligence procedure but has not completed coordination, this does not preclude the application of No. 11.41 by that administration.

ANNEX 4 TO RESOLUTION 49 (REV.WRC-12)

A Identity of the satellite network and other pertinent information

- a) Identity of the satellite network
- b) Name of the administration
- c) Country symbol
- d) Reference to the advance publication information
- e) Reference to the request for coordination
- f) Frequency band(s)
- g) Name of the operator
- h) Name of the satellite
- i) Orbital characteristics.
- j) Name of the spacecraft manufacturer
- k) Name of the launch vehicle provider
- l) Name of the launch vehicle
- m) Name and location of the launch facility
- n) Actual launch date of the satellite.

Reasons:

The proposed changes to the *considerings* and *resolves* of this Resolution are made to bring this Resolution up to date. The deletion of the “*instructs the Director of the Radiocommunication Bureau*” is proposed as this reporting to future WRCs is no longer necessary. The change to Annex 1 is made in recognition of the fact the BR is already maintaining such a web page. The new Annexes 3 and 4 are proposed to ensure that the ITU is in receipt of the most accurate data for networks operating in the most heavily used and congested satellite bands.

UNITED STATES OF AMERICA

DRAFT PROPOSAL FOR WRC-12

AGENDA ITEM 7: to consider possible changes in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference: “Advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks”, in accordance with Resolution 86 (Rev.WRC-07)

ISSUE: Application of Nos. 11.41 and 11.42 of the Radio Regulations

BACKGROUND: In the November 2008 meeting of the Working Party of the Special Committee on Regulatory and Procedural Matters (SC-WP), the BR addressed the application of Nos. **11.41** and **11.42** and considered, in particular, the case of an interference complaint received within the four month period indicated in No. **11.41**. Under these circumstances the BR suggested that: “[i]f the interference is not eliminated by the end of the four-month period envisaged for simultaneous operation, the Bureau cancels the “incoming” assignment (i.e. the one recorded under No. **11.41**) and informs the concerned administration accordingly”. For complaints of interference received after the four-month period the BR suggested that the procedures of Article 15 be applied.

This matter was further discussed at the December 2009 meeting of the SC-WP where a variation of the BR proposal was discussed. This variation suggested cancellation by the BR followed by communication to the RRB for unresolved interference complaints occurring within the four months and cancellation by the BR subject to confirmation by the RRB for unresolved interference complaints occurring outside the four-month period referred to in No. 11.41.

Other proposals submitted to the December 2009 meeting of the SC-WP opposed any automatic cancellation and suggested alternative ways of addressing the matter.

The US administration believes that the BR proposal, as well as its variation discussed during the SC-WP meeting, give excessive power to the administration claiming interference, since there is no requirement to present any showing that harmful interference is actually occurring. Moreover, even if harmful interference actually exists, definitively establishing the source of interference may take considerable time and this would bring additional problems to the implementation of these proposals asking for automatic cancellation in case of unresolved complaints. This raises even more concern

in cases where the complaint of harmful interference occurs towards the end of the four-month period.

The matter of provisional recording of frequency assignments that received unfavourable finding under No. **11.32A** or **11.33** is dealt with in Nos. **11.41**, **11.41A** and **11.42**¹.

In the November 2008 meeting of the SC-WP, the BR suggested that:

“For complaint received beyond the four month period indicated in No. **11.41**, it requests the administration responsible for the “incoming” assignment (i.e. the one recorded under No. **11.41**) to eliminate the harmful interference immediately under No. **11.42**. The matter is thereafter dealt with in accordance with the procedures set forth in Article **15** of the Radio Regulations.”

On the other hand, in the case of a complaint received during the four-month period the BR suggestion is:

“For complaint received within the four month period indicated in No. **11.41**, it requests the administration responsible for the “incoming” assignment (i.e. the one recorded under No. **11.41**) to eliminate the harmful interference immediately under No. **11.42**. If the administration responsible for the “existing” assignment informs the Bureau that the case was resolved, the Bureau takes no further action in this respect; ... If the administration responsible for the “existing” assignment informs the Bureau that the harmful interference persists, the Bureau requests again the administration responsible for the

¹ **11.32A c)** with respect to the probability of harmful interference that may be caused to or by assignments recorded with a favourable finding under Nos. **11.36** and **11.37** or **11.38**, or recorded in application of No. **11.41**, or published under Nos. **9.38** or **9.58** but not yet notified, as appropriate, for those cases for which the notifying administration states that the procedure for coordination under Nos. **9.7**, **9.7A**, **9.7B**, **9.11**, **9.12**, **9.12A**, **9.13** or **9.14**, could not be successfully completed (see also No. **9.65**);14 or (WRC-2000) **11.33 d)** with respect to the probability of harmful interference that may be caused to or by other assignments recorded with a favourable finding in application of Nos. **11.36** and **11.37** or **11.38** or in application of No. **11.41**, as appropriate, for those cases for which the notifying administration states that the procedure for coordination or prior agreement under Nos. **9.15**15, **9.16**15 **9.17**15 **9.17A** or **9.18** ¹⁵ could not be successfully completed (see also No. **9.65**);16 or (WRC-2000)

11.41 After a notice is returned under No. **11.38**, should the notifying administration resubmit the notice and insist upon its reconsideration, the Bureau shall enter the assignment provisionally in the Master Register with an indication of those administrations whose assignments were the basis of the unfavourable finding. The entry shall be changed from provisional to definitive recording in the Master Register only if the Bureau is informed that the new assignment has been in use, together with the assignment which was the basis for the unfavourable finding, for at least four months without any complaint of harmful interference being made (see Nos. **11.47** and **11.49**).

11.41A Should the assignments that were the basis of the unfavourable finding under Nos. **11.32A** or **11.33** not be brought into use within the period specified in Nos. **11.24**, **11.25** or **11.44**, as appropriate, then the finding of the assignments resubmitted under No. **11.41** shall be reviewed accordingly.

11.42 Should harmful interference be caused by an assignment recorded under No. **11.41** to any recorded assignment which was the basis of the unfavourable finding, the station using the frequency assignment recorded under No. **11.41** shall, upon receipt of advice thereof, immediately eliminate this harmful interference.

“incoming” assignment to immediately eliminate the reported harmful interference and to modify accordingly the characteristics of the recorded assignment.

If the interference is not eliminated by the end of the four-month period envisaged for simultaneous operation, the Bureau cancels the “incoming” assignment (i.e. the one recorded under No. **11.41**) and informs the concerned administration accordingly.”

However, in the same November 2008 meeting of the SC-WP, the BR expressed the view that:

“It is to be noted that No. **11.41** (combination of both former **RR1544** and **RR1556**) includes the term “definitive recording” to distinguish it from “provisional recording”. In view of the conditions set forth in No. **11.42**, which stipulates that the administration responsible for the assignment recorded under No. **11.41** has an obligation to eliminate all future harmful interference to any recorded assignment which was the basis of unfavourable finding, it follows that the status of an incoming assignment recorded under No. **11.41**, even when recorded as “definitive”, remains always lower than the status of the existing assignment which was the basis for the unfavourable findings under No. **11.32A**. This fact is indicated by the inclusion of the symbol “**11.41**” in column 13B1 in the MIFR against the incoming assignment recorded under No. **11.41**.”

This means that the status of the frequency assignments recorded under No. **11.41** may change from “provisional recording” to “definitive recording” after the four month period, but the assignments remain with a lower status with respect to the assignments which were the basis for the unfavourable findings under No. **11.32A**. In view of that, it is not justifiable that drastically different treatments be applied to the situations in which the interference complaint occurred within or outside the four-month period.

The current BR view includes no consideration of the relative proximity of the incoming network and the reportedly interfered-with network, the relative timing of the interference complaint within the four month “provisional” window, or the requirement for the complaining administration to provide some showing to substantiate their complaint. This creates the possibility that an administration wishing to block an incoming network for whatever reason could claim, towards the end of the four-month period, that one of its networks, well removed from the incoming network, is receiving interference, with no need to substantiate this claim whatsoever. This would result in the administration with the incoming network having little time, and little information, to resolve the issue before the BR cancels the suspect assignments of the incoming network.

Considering all of the above, it is concluded that interference complaints related to Nos. 11.41 and 11.42 should be treated following the provisions of Article 15 (which already contains the procedures that allow interference events to be reported and appropriately addressed) and of No.13.2 of the Radio Regulations (which defines the way to treat unresolved cases of harmful interference)².

² 13.2 When an administration has difficulty in resolving a case of harmful interference and seeks the assistance of the Bureau, the latter shall, as appropriate, help in identifying the source of the interference

U.S. PROPOSAL: In view of the above the United States proposes that changes to Article 11 of the Radio Regulations be introduced in order to clarify that interference complaints related to Nos. 11.41 and 11.42 should be treated following the provisions of Article 15 and No. 13.2. These changes are specified in Annex 1.

and seek the cooperation of the responsible administration in order to resolve the matter, and prepare a report for consideration by the Board, including draft recommendations to the administrations concerned.

ANNEX 1

MOD

11.42 Should harmful interference be caused by an assignment recorded under No. **11.41** to any recorded assignment which was the basis of the unfavourable finding, the station using the frequency assignment recorded under No. **11.41** shall, upon receipt of advice thereof, immediately eliminate this harmful interference. The provisions of Article 15 should be followed and difficulties in resolving cases of harmful interference should be addressed in accordance with No. 13.2.

Reason: To clarify that the harmful interference situations addressed in No.11.42 should be addressed following the provisions of Article 15 and No. 13.2 instead of using a specific procedure applicable only to such situations.

DOCUMENT WAC/066(02.03.10)

UNITED STATES OF AMERICA

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

AGENDA ITEM 8.1: *to consider and approve the Report of the Director of the Radiocommunication Bureau:*

8.1.1 on the activities of the Radiocommunication Sector since WRC-07;

8.1.2 on any difficulties or inconsistencies encountered in the application of the Radio Regulations; and

8.1.3 on action in response to Resolution 80 (Rev.WRC-07);

Background Information: These proposals address inconsistencies in the Radio Regulations to be addressed under Agenda Item 8.1.2.

The Radiocommunications Assembly 2007 adopted Res. ITU-R 56 “that the term “IMT” be the root name that encompasses both IMT-2000 and IMT-Advanced collectively.” The US and CITELE positions at WRC-07 were that references in the Radio Regulations to “IMT-2000” should be changed to “IMT”.

At WRC-07, appropriate changes were made in the Footnotes and Resolutions associated with IMT-2000; so the term “IMT-2000” was changed to “IMT”. (See, for example, Res. 223, 224, 225, etc. and Footnotes 5.317A, 5.384A, etc.)

In implementing its decision on using IMT as the root name for all references to IMT-2000 and IMT-Advanced, the WRC-07 overlooked some regulatory provisions and Resolutions (e.g., No. 5.388, 5.388A, and 5.388B). There is a need to correct these inconsistencies at WRC-12 as detailed in the proposal below.

Proposals:

ARTICLE 5

Frequency allocations

Section IV – Table of Frequency Allocations

(See No. 2.1)

MOD USA/AI 8.1.2/1

5.388 The bands 1 885-2 025 MHz and 2 110-2 200 MHz are intended for use, on a worldwide basis, by administrations wishing to implement International Mobile Telecommunications-2000 (IMT-2000). Such use does not preclude the use of these bands by other services to which they are allocated. The bands should be made available for IMT-2000 in accordance with Resolution **212 (Rev.WRC-907)***. (See also Resolution **223 (Rev.WRC-20007)***.)

Reasons: Resolution 212 was revised by the WRC-07 consistent with Res. ITU-R 56 on using IMT as the root name for all references to IMT-2000 and IMT-Advanced. No. 5.388 needs to be updated to remain consistent with Resolution 212 (WRC-07). Also, the references to WRC Resolutions 212 and 223 need to be updated to appropriate Revisions.

MOD USA/AI 8.1.2/2

5.388A In Regions 1 and 3, the bands 1 885-1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz and, in Region 2, the bands 1 885-1 980 MHz and 2 110-2 160 MHz may be used by high altitude platform stations as base stations to provide International Mobile Telecommunications-2000 (IMT-2000), in accordance with Resolution **221 (Rev.WRC-0307)***. Their use by IMT-2000 applications using high altitude platform stations as base stations does not preclude the use of these bands by any station in the services to which they are allocated and does not establish priority in the Radio Regulations.

Reasons: Resolution 221 was revised by WRC-07 consistent with Res. ITU-R 56 on using IMT as the root name for all references to IMT-2000 and IMT-Advanced. No. 5.388A needs to be updated to remain consistent with Resolution 221 (WRC-07). Also, the references to WRC Resolution 221 need to be updated to appropriate Revisions.

MOD USA/AI 8.1.2/3

5.388B In Algeria, Saudi Arabia, Bahrain, Benin, Burkina Faso, Cameroon, Comoros, Côte d'Ivoire, China, Cuba, Djibouti, Egypt, United Arab Emirates, Eritrea, Ethiopia, Gabon, Ghana, India, Iran (Islamic Republic of), Israel, the Libyan Arab Jamahiriya, Jordan, Kenya, Kuwait, Mali, Morocco, Mauritania, Nigeria, Oman, Uganda, Qatar, the Syrian Arab Republic, Senegal, Singapore, Sudan, Tanzania, Chad, Togo,

Tunisia, Yemen, Zambia and Zimbabwe, for the purpose of protecting fixed and mobile services, including IMT-2000 mobile stations, in their territories from co-channel interference, a high altitude platform station (HAPS) operating as an IMT-2000 base station in neighbouring countries, in the bands referred to in No. **5.388A**, shall not exceed a co-channel power flux-density of $-127 \text{ dB(W/(m}^2 \cdot \text{MHz))}$ at the Earth's surface outside a country's borders unless explicit agreement of the affected administration is provided at the time of the notification of HAPS.

Reasons: No. 5.388B refers to No. 5.388A, which in turn refers to Resolution 221, which was revised at WRC-07 consistent with Res. ITU-R 56 on using IMT as the root name for all references to IMT-2000 and IMT-Advanced. No. 5.388B needs to be updated to remain consistent with No. 5.388A and Resolution 221 (WRC-07).

ARTICLE 11

Notification and recording of frequency assignments^{1, 2, 3, 4, 5, 6, 7}

MOD USA/AI 8.1.2/4

11.26A Notices relating to assignments for high altitude platform stations operating as base stations to provide IMT-2000 in the bands identified in **5.388A** shall reach the Bureau not earlier than three years before the assignments are brought into use.

Reasons: No. 11.26A refers to No. 5.388A, which in turn refers to Resolution 221, was revised by the WRC-07 consistent with the Res. ITU-R 56 on using IMT as the root name for all references to IMT-2000 and IMT-Advanced. No. 11.26A needs to be updated to remain consistent with No. 5.388A and Resolution 221 (WRC-07).

APPENDIX 5 (Rev.WRC-07)

Identification of administrations with which coordination is to be effected or agreement sought under the provisions of Article 9

ANNEX 1

TABLE 5-2

MOD USA/AI 8.1.2/5

NOTE 3 – The coordination thresholds in the band 2 160-2 270 MHz (Region 2) and 2 170-2 200 MHz (all Regions) to protect other terrestrial services do not apply to International Mobile Telecommunications-2000 (IMT-2000) systems, as the satellite and the terrestrial components are not intended to operate in the same area or on common frequencies within these bands.

Reasons: Appendix 5 needs to be modified to remain consistent with the action taken at WRC-07 changing IMT-2000 to IMT as the root name for IMT-2000 and IMT-Advanced in line with Res. ITU-R 56.